

before transplantation in FAP and non-FAP patients. Mental component improved in non-FAP (18.47) and worsened in FAP (-7.8) after transplantation. Physical component showed improvement in both groups, but significantly greater in non-FAP group (8.00 versus 16.76). Worst HRQoL scores were associated to limbs pain, disability, and mental symptoms. LTx must be performed early, before the onset of somatic symptoms to improve chances of a better HRQoL. **CONCLUSIONS:** FAP patients submitted to LTx present worse HRQoL scores when compared to non-FAP transplanted patients. After LTx, FAP present worse mental component; physical component showed improvement, but significantly lower than non-FAP group.

SURGERY - Health Care Use & Policy Studies

PSU27

LIVER TRANSPLANTATION IN FAMILIAL AMYLOID POLYNEUROPATHY IN BRAZIL: DEMOGRAPHIC AND CLINICAL DATA COMPARED TO FAP WORLD TRANSPLANT REGISTRY

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OBJECTIVES: Familial amyloid polyneuropathy (FAP) is an autosomal dominant disorder, caused by mutant transthyretin protein (TTR). Because most TTR is produced in hepatocytes, liver transplantation (LTx) has been a treatment option to prevent long term disease progression. This study aims to report demographic and clinical characteristics of FAP patients submitted to LTx in Brazil compared to FAP World Transplant Registry (FAPWTR). **METHODS:** A literature review was performed by May 2012 through Cochrane Collaboration, Medline, EMBASE, and Lilacs databases. A retrospective analysis of epidemiological data available from FAPWTR was developed from 1995 to 2010. **RESULTS:** A literature review was performed by May 2012 through Cochrane Collaboration, Medline, EMBASE, and Lilacs databases. A retrospective analysis of epidemiological data available from FAPWTR was developed from 1995 to 2010. **RESULTS:** From 1995 to 2010, 1,893 LTx were recorded in 73 centers of 19 countries by FAPWTR. Of these, 5% were performed in 4 Brazilian centers. In FAPWTR cohort, 56% were male, median age at time of transplantation was 38 years (21-72), and the median disease duration before LTx was 3 years (0-30). The main causes of death were cardiac complications (22%), sepsis (22%), liver related complications (14%) and perioperative complications (3%). The 5-year survival rate was 82%. In a cohort from São Paulo University-Brazil, 24 patients underwent LTx. Patients characteristics were similar to FAPWTR (66.6% male; median age 36 years), except for disease duration before transplantation (median: 8 years [2-17]). Six deaths were registered and the main causes were sepsis and hepatic artery thrombosis. Cardiac related deaths was also observed but in one case. The overall 5-year survival rate was 58%. Data from 59 Brazilian subjects enrolled in Transthyretin Amyloidosis Outcomes Survey (THAOS) indicated 81% of symptomatic patients and LTx performed in 37.5%. **CONCLUSIONS:** When compared to FAPWTR, Brazilian cohort showed longer disease duration before LTx, and a shorter 5-year survival rate after the procedure. This might be indicative of a need for better diagnose and management of FAP patients in Brazil.

PSU28

RETROSPECTIVE ANALYSIS OF LIVER TRANSPLANTATION IN BRAZIL

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OBJECTIVES: Liver transplantation (LTx) is a complex surgical procedure indicated for patients with serious acute or chronic diseases, when no other effective treatment is available. This retrospective study aims to report temporal trends and geographic distribution of LTx in Brazil. **METHODS:** A systematic review was performed by May 2012 to identify publications on LTx in Brazil through Cochrane Collaboration, Medline, EMBASE, Lilacs databases and gray literature. A retrospective analysis of epidemiological data available from Brazilian Registry of Transplants (Brazilian Association of Organ Transplants) and Report of Latin American Transplantation (The Transplantation Society of Latin American and The Caribbean) was developed from 1985 to 2011. **RESULTS:** In Brazil, an increase in LTx performed annually was observed since the first successful experience (1985). In 2011, 1,492 LTx were performed, an increase of 496% over 5 procedures in 1985, with a survival rate of 74% for patients and 70% for graft. Living donor procedures showed an increase from 1995 to 2005, but a reduction after 2006 (5 in 1995; 192 in 2005; 104 in 2011). Deceased donor procedures present a continuous growth tendency (3 in 1985; 1,388 in 2011). Nevertheless, in 2009, the waiting list had 4,850 registered patients. Geographic distribution is influenced by transplantation centers distribution. The distribution of [inhabitants; LTx centers; LTx procedures] in 5 Brazilian geographic region in 2011 is: North [8.09%; 0%; 0%], Northeast [27.97%; 15.79%; 21.24%], Midwest [7.32%; 2.63%; 0%], Southeast [42.20%; 60.53%; 57.92%], and South [14.43%; 21.05%; 20.84%]. São Paulo state, placed in Southeast region, represents 31 transplantation centers (76 in Brazil), 21.58% of country population and 46% of LTx conducted in 2011. **CONCLUSIONS:** Brazil performed a growing number of LTx from 1985 to 2011, but this increase may not be enough, once a large patient's number remains on waiting lists. Geographical distribution shows to be significantly irregular in the country.

PSU29

FRENCH SURVEY ON THE MANAGEMENT OF ANEMIA AND IRON SUPPLEMENTATION IN PATIENTS IN ELECTIVE ORTHOPEDIC SURGERY

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OBJECTIVES: Recent recommendations (1) have underscored the need for anemia

assessment and treatment, including iron, prior to scheduled orthopedic surgery. Administration of intravenous iron alone or combined to erythropoiesis stimulating agents (ESA) have also been shown to reduce transfusion requirements. However, the current practices are not well known. The aim of the present study was to assess the management of iron supplementation and anemia in patients with scheduled hip or knee surgery. **METHODS:** A total of 718 Anesthesiologists were selected from a professional file. Their daily practice on anemia management was evaluated through a questionnaire. **RESULTS:** The survey analysis was performed on 117 questionnaires (return rate: 16%). The most frequent biological exams for anemia and iron deficiency prescribed by surgeons (45%), anesthesiologist (48%) or both (7%) before surgery were hemoglobin (100% of questionnaires), ferritin (35%), serum iron (33%), transferrin and Transferrin saturation (24%). Among the 117 anesthesiologists, 94 (80.3%) declared to prescribe ESA and 104 (89%) iron (oral, 29%; intravenous, 17%; both, 50%) before surgery. The main reasons to choose intravenous iron were combination to ESA (54%), short delay before surgery (43%), poor tolerance of oral iron (37%) or poor intestinal absorption (27%); intravenous iron was also used in the absence of ESA for 37%. In case of anemia after surgery, intravenous iron given in the first 24 hours was prescribed by 80% of anesthesiologist. When patient returned home, 65% of survey responders prescribed oral iron. **CONCLUSIONS:** This survey shows that optimization of Hemoglobin before surgery with the use of ESA and iron is wide, but the exploration of anemia is infrequent, despite recent recommendations. Prospective studies aimed to assess the impact of intravenous iron alone or combined to ESA before elective orthopedic surgery are necessary. Prospective studies aimed at better defining the place of iron are still needed.

PSU30

EFFECTS OF DIFFERENT CLINICAL PRACTICES OF LAPAROSCOPIC SURGERY FOR ENDOMETRIOSIS TREATMENT ON COST OF THERAPY

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OBJECTIVES: Using information collected from leading Turkish gynecologists, the costs of different clinical practices of laparoscopic surgery (LS) for endometriosis treatment were compared. **METHODS:** Top gynecologists from Turkey were interviewed regarding the best practices to treat endometriosis, including hospitalization, tests ordered pre- and post surgery, and the number of follow-up visits per patient. Physicians' views were split into two camps with a few opinions in the middle. The diverging physician opinions were compared and using the physicians' recommended laparoscopy procedures, the cost of endometriosis treatment was estimated using Social Security Institution data. **RESULTS:** The answers regarding hospitalization following laparoscopic surgery differed between "hospitalization for all patients" and "no hospitalization" after LS. The percentage of patients recommended for chest radiography and electrocardiogram (ECG) also varied between 30% and 100%. The number of follow-up visits differed with suggestions for both no and one follow-up visit. Using the interview results and the assumption that 5% of Turkish women between ages 18 and 49 (N=1,000,000) suffer from endometriosis, the total cost of laparoscopic treatment was estimated for two sets of recommendations: a) the physician does not hospitalize patients, suggests chest radiography and ECG for 30% of patients, and does not follow-up with any of the patients after LS, and b) the physician hospitalizes all patients for one night, suggests chest radiography and ECG for 100% of patients, and follows-up with all patients after LS. Depending on physicians' preference of treatment procedures, projected costs varied from 200.24, to 241.30. **CONCLUSIONS:** Different clinical perspectives and practices of laparoscopic treatment for endometriosis affect cost of therapy by as much as 41,06 per patient. When combined with the estimated 1 million endometriosis patients in Turkey, total cost differs 41,060,000. Developing a standard procedure for LS may help lower aggregate costs and cost variation of procedure.

PSU31

THE ASSOCIATION BETWEEN DEGENERATIVE DISK DISEASE AND OUTCOMES AMONG PATIENTS UNDERGOING LUMBAR FUSION SURGERY

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OBJECTIVES: Examine the association between degenerative disk disease (DDD) and patient length of stay (LOS) and total payments among patients who underwent lumbar fusion surgery. **METHODS:** Patients who underwent an anterior lumbar interbody fusion (ALIF), posterior lumbar fusion (PLF) or transforaminal or posterior lumbar interbody fusion (T/PLIF) surgery over the time period from 2006 - 2009 in the Thomson Reuters MarketScanDatabases were identified. These patients were examined for evidence of degenerative disk disease (DDD). Multivariate regressions were used to examine the association between DDD and LOS and total payments, while controlling for patient age, sex, type of insurance coverage, and type of procedure. **RESULTS:** Of the 28,647 patients who underwent lumbar fusion surgery, 7,230 had an ALIF, 16,374 had a PLF, and 5,043 had a T/PLIF. 13,340 (46.57%) of the sample had a comorbid diagnosis of DDD (ICD-9 code 722.6x, 722.51, 722.52). However, the majority of these patients were also diagnosed with an additional comorbid back problem - only 1,911 (6.67%) were diagnosed with "stand alone" DDD. Compared to patients without DDD, patients who had DDD and no additional comorbid back problem were found to have \$5,557 lower total payments (P<0.0001) and 0.17 shorter LOS (P<0.0001), after controlling for patient characteristics and type of procedure. In contrast, patients with DDD and an additional comorbid back diagnoses were found to have \$4,876 higher total payments and 0.07 longer LOS compared to patients without DDD. **CONCLUSIONS:** DDD is an uncommon sole

clinical rational for lumbar fusion surgery. Patients who underwent a ALIF, PLF or T/PLIF with "stand-alone" DDD had significantly lower total payments and significantly shorter LOS, while patients with DDD and additional back diagnoses had significantly higher total payments and longer LOS compared to patients who underwent an ALIF, PLF, or T/PLIF without a comorbid diagnosis of DDD.

PSU32

A COMPARISON OF RESOURCE UTILIZATION AND MEDICAL CHARGES AMONG LUMBAR INTERBODY FUSION SURGICAL PATIENTS WITH AND WITHOUT REVISION

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OBJECTIVES: Compare resource utilization and medical charges among patients who had an anterior lumbar interbody fusion (ALIF), posterior lumbar interbody fusion (PLF), or transforaminal posterior lumbar interbody fusion (T-PLIF) and a subsequent revision surgery to those without such a revision surgery. **METHODS:** The MedStat MarketScan databases from 2006 - 2009 were utilized for this retrospective analysis. Patients were included if had a ALIF, PLF, or T-PLIF and had continuous insurance coverage for 2 years post procedure. Revision patients were then matched to non-revision patients at a 2:1 ratio based upon type of initial procedure, year of birth, sex, and region of residence. Medical payments and resource utilization were compared between the two cohorts using t-statistics for continuous variable and chi-square statistics for categorical variables. **RESULTS:** In the 2 years post procedure, patients with a subsequent revision were significantly more likely to visit a physical therapist (92% v 62%; $P < 0.0001$), receive an epidural steroid injection (58% v 47%; $P = 0.0074$), or visit the emergency room with a diagnosis of back pain (20% v 9%; $P < 0.0001$). The average cost the initial surgery was similar among the two cohorts (\$39,925 v \$38,341; $P = 0.6422$) while the mean cost associated with a revision surgery was \$35,296 (std dev = \$32,814). Total payments for the two cohorts, ignoring the cost of the initial procedure was \$33,180 for patients who did not have a subsequent revision, and \$89,770 for patients with a subsequent revision ($P < 0.0001$). These differences translate into a \$56,590 cost premium associated with a revision surgery - 62% of which can be accounted by the revision surgery itself. **CONCLUSIONS:** Revision surgery was associated with significantly more resource utilization post initial surgery. Comparing costs among the two groups reveal a significant cost premium associated with revision surgery and that such costs extended beyond the cost of the revision surgery itself.

PSU33

CHARACTERISTICS AND BURDEN OF TUBEROUS SCLEROSIS COMPLEX: RESULTS OF A PATIENT AND CAREGIVER SURVEY IN THE UNITED STATES

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OBJECTIVES: Tuberous sclerosis complex (TSC) is a rare genetic disorder characterized by benign tumor growth in multiple organs. TSC's subsequent and varied impacts on patients are typically treated by many different types of procedures. This study aimed to assess the principal clinical manifestations imposed by the disease and consequent major types of health care resource utilization experienced among TSC patients in the United States (US). **METHODS:** An Institutional Review Board-approved Internet-based survey of US TSC patients and caregivers solicited information on prevalence of manifestations, disease management, and impact on patients. Descriptive statistics were calculated. **RESULTS:** Of the 380 initial respondents, 53% were patients and 47% were caregivers. Surveys provided data on 380 patients, of whom 59% were female and the mean age was 30.4 years (SD: 17.3; median: 32.5). The majority of patients reported experiencing skin lesions (53%) while seizures, cognitive concerns, cerebral tumors, angiomyolipomas (AML), and subependymal giant cell astrocytomas (SEGA) were reported by 46%, 36%, 26%, 23%, and 21%, respectively. Ninety patients (24%) reported only one manifestation of TSC, while 18%, 14%, and 38% reported 2, 3, or 4 or more. Over half of patients (52%) had some type of TSC-related surgery including but not limited to brain surgery (33%), embolization (12%), nephrectomy (7%), kidney transplant (6%), and laser surgery (12%). Patients with SEGAs reported the highest level of brain surgery (55%). Among patients with AMLs, embolization for kidney lesions (28%), nephrectomy (12%) and kidney transplant (8%) were reported. **CONCLUSIONS:** In this analysis of initial respondents, TSC presents significant, and varied, epidemiological and clinical burden in the US. Patients with SEGA and AMLs seemed to experience the highest rates of invasive procedures among all patients with TSC.

PSU34

EPIDEMIOLOGICAL MODELING OF PATIENT SURVIVAL AFTER LIVER TRANSPLANTATION IN GERMANY

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OBJECTIVES: The number of performed heart transplantations per year are well published and can easily be accessed. Nevertheless, there are no exact figures on the prevalence and incidence of patient survival after heart transplantation in Germany, although these patients have high health care needs. Purpose of this study was to generate these missing figures for the past and present as well as taking an outlook into the future development until 2030. **METHODS:** Primarily based on statistics from the Federal Statistical Office and liver transplant quality reports of the German AQUA-Institute, relevant parameters and data were identified

and used to develop an epidemiological model. Key drivers of the model are yearly patient survival rates as well as growth rates of performed liver transplantations. The model starts in 1987 and is able to predict the future development of the cumulative liver transplant patient population until the year 2030. To account for uncertainty, a 1,000 replication Monte-Carlo-Simulation with random samples within published ranges of the input parameters was run. **RESULTS:** According to our model currently (2012) about 7.773 (95% Confidence interval: 7.701 – 7.844) patients with prior liver transplantation live in Germany. Until 2030 the model estimates an increase of the population size to 17.490 (95% CI: 17.105 – 17.875) people. The number of performed liver transplantations is estimated at 3.068 (95% CI: 2.988 – 3.148) in 2030. **CONCLUSIONS:** With current assumptions the liver transplant patient population size will continuously grow. The growth of this population will primarily be limited by available organs for transplantation.

PSU35

EPIDEMIOLOGICAL MODELING OF PATIENT SURVIVAL AFTER HEART TRANSPLANTATION IN GERMANY

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OBJECTIVES: The number of performed heart transplantations per year are well published and can easily be accessed. Nevertheless, there are no exact figures on the prevalence and incidence of patient survival after heart transplantation in Germany, although these patients have high health care needs. Purpose of this study was to generate these missing figures for the past and present as well as taking an outlook into the future development until 2030. **METHODS:** Primarily based on statistics from the Federal Statistical Office and heart transplant quality reports of the German AQUA-Institute relevant parameters and data were identified and used to develop an epidemiological model. Key drivers of the model are yearly patient survival rates as well as growth rates of performed heart transplantations. The model starts in 1980 and is able to predict the future development of the cumulative heart transplant patient population until the year 2030. To account for uncertainty, a 1,000 replication Monte-Carlo-Simulation with random samples within published ranges of the input parameters was run. **RESULTS:** According to our model currently (2012) about 4.072 (95% Confidence interval: 4.028 – 4.116) patients with prior heart transplantation live in Germany. Until 2030 the model estimates a decrease of the population to 3.028 (95% CI: 2.980 – 3.077) people. Peak number of patients after heart transplantation was estimated at 2007: 4.225 (95% CI: 4.192 – 4.257). The number of performed heart transplantations is estimated at 266 (95% CI: 261-271) in 2030. **CONCLUSIONS:** Even though the peak number of patients with heart transplants according to our model has occurred in the past, still a considerable heart transplant patient population is living in Germany and seeking health care services for their needs.

PSU36

EVIDENCE BASED MEDICINE: A CASE STUDY OF ITS APPLICATION TO INNOVATIVE SURGICAL PROCEDURES IN THE UK

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INTRODUCTION: Evidence based medicine (EBM) is frequently used as the basis for clinical guidelines and reimbursement recommendations. The hierarchy of evidence is: Level I - randomized controlled trials (RCTs); Level II - nonrandomized cohort studies; Level III - case control studies, Level IV - case series, and Level V - expert opinion. RCTs are generally required when developing clinical guidelines or reimbursement recommendations for drugs. **OBJECTIVES:** The purpose of this case review is to illustrate an application of EBM to an innovative surgical procedure and highlight how the recommendations for use changed with new evidence. **METHODS:** NICE guidelines for arthroscopic surgery for femoro-acetabular impingement were reviewed. This case study was selected because the treatment modality represents a new surgical technology in which guidelines for coverage recommendations, first promulgated in 2007, were later changed in 2011, illustrating the impact of additional evidence generation. **RESULTS:** In 2007, efficacy evidence considered by NICE were two case series, with 158 and 10 patients respectively. In 2011, efficacy evidence considered by NICE covered 1126 patients from 3 non-randomized controlled studies (none compared with natural history or non-arthroscopic surgical techniques), 5 case series (with 100 to 200 hips), and 1 case report. Twenty-two smaller case series were also identified. In 2011, four out of five specialist advisors viewed the procedure as established while one advisor considered the efficacy and safety still to be uncertain. In 2007, NICE concluded "current evidence . . . does not appear adequate for this procedure to be used without special arrangements for consent and for audit or research" while in 2011 NICE concluded "current evidence . . . is adequate in terms of symptom relief in the short and medium term." **CONCLUSIONS:** For innovative surgical procedures in the UK, non-randomized controlled studies and case series, supported by specialist recommendation, may be sufficient for a positive recommendation by NICE.

DISEASE-SPECIFIC STUDIES

CANCER - Clinical Outcomes Studies

PCN1

USE OF THE 5-HT3-RA ANTIEMETICS IN THE PREVENTION AND TREATMENT OF RADIATION INDUCED NAUSEA AND VOMITING

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